

### WHAT IS CLAIMED IS:

1. A process of the gasification of glass fiber reinforced plastics, comprising the steps of feeding a glass fiber reinforced plastic material to a gasification section; heating the material to a temperature of 60 to 700C in the presence of oxygen and steam to gasify the plastic component thereof; recovering the remaining glass fibers; introducing the resulting plastic gas into a plastic gas decomposition section; partially oxidizing the plastic gas in the presence of additional oxygen or an additional mixture of oxygen and steam; and recovering the CO and H<sub>2</sub> so produced.

2. An apparatus for the gasification of glass fiber reinforced plastics, comprising a gasification furnace consisting of a horizontally disposed rotatable cylindrical structure and having a heating zone for heating a glass fiber reinforced plastic material to a temperature of 650 to 700°C in the presence of oxygen and steam to gasify the plastic component thereof, and a recovery zone for recovering the glass fibers remaining as a result of the heating; a plastic gas decomposition furnace connected to said gasification furnace for partially oxidizing the plastic gas introduced from said gasification furnace at a temperature of 700 to 1,000°C in the presence of additional oxygen or an additional mixture of oxygen and steam; and a

gas purification column for purifying the gas produced in said decomposition furnace to recover CO and H<sub>2</sub>.

3. A process of the gasification of glass fiber reinforced plastics, comprising the steps of feeding a glass fiber reinforced plastic material to a gasification section; heating the material to a temperature of 60 to 700°C in the presence of air and steam to gasify the plastic component thereof; recovering the remaining glass fibers; introducing the resulting plastic gas into a combustion section; burning the plastic gas at a temperature of 700 to 1,000°C in the presence of additional air or an additional mixture of air and steam, and recovering generated heat.

4. An apparatus for the gasification of glass fiber reinforced plastics comprising a gasification furnace consisting of a horizontally disposed rotatable cylindrical structure and having a heating zone for heating a glass fiber reinforced plastic material to a temperature of 650 to 700°C in the presence of air and steam to gasify the plastic component thereof, and a recovery zone for recovering the glass fibers remaining as a result of the heating; a combustion furnace connected to said gasification furnace and disposed for burning the plastic gas introduced from said gasification furnace at a temperature of 700 to 1,000°C in the presence of

additional air or an additional mixture of air and steam; and a heat recovery unit for recovering heat from the gas produced in said combustion furnace.